



## ABSTRACT

A method ~~Method~~ for the automated production of liquid SO<sub>2</sub> having a purity above 99.9% from elemental sulfur and pure oxygen, in the presence of SO<sub>2</sub> recirculated from ~~[[the]]~~ a closed circuit production system ~~itself~~. The temperature of the combustion is controlled by means of pre-defined S, O<sub>2</sub> and SO<sub>2</sub> ratios. The automation is made based on oxygen sensors and on sulfur and SO<sub>2</sub> flow meters with their respective control connections and proportional valves permitting a fine control of the sulfur combustion reaction. ~~The liquefaction~~ Liquefaction of ~~[[the]]~~ gaseous SO<sub>2</sub> produced is carried out alternatively by a cool plant working between -10 and -60°C or with a compression unit working at a pressure between 3.8 and 5.0 bar. The automation permits an optimum temperature control and a clean production of SO<sub>2</sub>.